

REVIEWS

A Flora of Santa Cruz Island. By STEVE JUNAK, TINA AYERS, RANDY SCOTT, DIETER WILKEN, and DAVID YOUNG (illustrated by LINDA ANN VOROBİK). 1995. Santa Barbara Botanic Garden, Santa Barbara, in collaboration with the California Native Plant Society, Sacramento. 408 pp. plus Relief Map of Santa Cruz Island by S. JUNAK & JOANN TANNER ROUNDS. Softcover, \$24.95, ISBN 0-943460-23-9.

I am not one who is eager to write book reviews. In fact, a few years ago I made extensive notes for the last book review that I was *inspired* to write, but fortunately had the foresight and will to hold my tongue and pen, else I would have acquired countless life-long enemies. On the other end of the scale, the recently published *A Flora of Santa Cruz Island* has filled me with a deep pride and inspiration that begs an audience. This floristic project has been carried out at the Santa Barbara Botanic Garden through the contributions of several staff members, past and present, and has in essence been an institutional labor of love spanning a number of years. Consequently, I was very pleased when I heard from Dieter Wilken that the book was in press and that there would be a booksigning commemorating the publication of this new flora at the Santa Barbara Botanic Garden on 28 October 1995. Hence, on the appointed day, my wife, Annette, and I made a rare trip to the SBBG to participate in this special occasion. I expected to see Steve Junak and Dieter Wilken at the event, but wondered aloud whether any of the other co-authors would be able to attend, since they now reside out of state. As it turned out, all five co-authors were present, as well as the illustrator, to proudly celebrate the completion of this important floristic work for Southern California.

Pride of the contributors is never sufficient to prove the quality of a product, however. The worth of the product must be judged on its own merits through the amount of information provided, the accuracy of the information, the completeness of the work, the utility of the work, and the aesthetic and practical presentation of the whole and its parts. All these facets considered, I have nothing but the highest praise for this new flora. From cover to cover it exhibits a care and conscientiousness for detail that is rarely paralleled in other local floras. It is refreshing in the fact that it is not a mindless collation of information from other floras. Instead, it is evident throughout the text that this work is the product of detailed historical research, thorough examination of herbarium specimens, and the authors' astute personal knowledge of the extant vascular plants on Santa Cruz Island.

An overview of the book itself is in order, although the brief words of a reviewer will not do it justice. It has been published in a convenient and appropriate size (7 × 10 inches, nearly 1 inch thick) on good quality paper stock which permits very clear reproduction of both the text and illustrations. The retail cost of this book is amazingly low considering the cumulative value of its substance and contents. I do regret that the *Flora* is only available in a paperback edition (many of us would have gladly paid ten or fifteen dollars more for a hardbound copy), but this minor complaint detracts nothing from the quality of the book itself. Before I even cracked open the *Flora*, I was impressed by the beautifully composed and aesthetically pleasing cover design by Beth Hansen. Over a muted photographic background of *Louisa argophyllus*—with its silvery-gray leaves and clusters of golden-yellow flowers—are superimposed a text block for the title and authors' names, which in turn is counterbalanced below by a dramatic topological panorama in rich earthen tones. The cover alone is a seamless composition that subtly draws the text together with the beauty of the local flora and the rugged, forbidding landscape that can seem so barren to

the uninitiated. In doing so, it provides an apt introduction to the themes and equally artful contents of the *Flora*.

While I had known that Linda Vorobik was providing the botanical illustrations for this work, I was surprised to discover that she also undertook the text layout and design. As with the cover, the text layout shows a symmetry, balance, and clarity of organization that contribute to the book's overall appeal. The type-face used in the text is formal (as it should be), but easy on the eyes. Taxon names are bolded and common names appear in all capitals for quick visual reference, but the balance of each taxonomic entry is devoid of unnecessary abbreviations, differing font-types, or other forms of visual clutter.

Beyond the aesthetic aspects of this flora, the actual content of the book is impressively solid. Introductory material is extensive (51 pages) and well presented. It begins with an overview of California's Channel Islands, turning subsequently to the unique geographic, geologic, and physiographic features of Santa Cruz Island and the associations of vascular plants upon it. Contemporary aspects of the vegetation and floristic composition are put in perspective by a discussion of historic and sub-historic changes brought about by anthropogenic influences—both conscious and accidental. A brief but excellent discussion of botanical exploration on the island is presented (pp. 41–46), which supplies notes on many of the botanists who contributed to an improved knowledge of the island's flora, either through their collections alone, or through both collections and published accounts of their observations. The introduction is fleshed-out with a numerical analysis of the flora, and three pages of orienting information for the reader/user. In addition, the introitus is supplemented with black & white historical photographs from various sources, and several additional photographs by Steve Junak (who also provided the photos for the cover) which illustrate some of the habitats, vegetation assemblages, landforms, and the essential grandeur of the island.

The heart of the book, *i.e.*, the floristic text, occupies pages 53 to 320. The major groupings are ferns and fern allies, gymnosperms, dicotyledonous angiosperms, and monocotyledonous angiosperms, within which the taxa are arranged alphabetically by family, genus, and species (as well as infraspecific taxa, where relevant). Such an arrangement is both useful and desirable from a pragmatic standpoint, since an imperfectly-known, four-dimensional phylogeny cannot be adequately represented in a linear (two-dimensional) scheme, anyway. The entire flora provides details on 648 species or lower taxa and 2 hybrids, and is provided with original keys which, like the taxon distribution data and descriptions, illustrate a personal knowledge of the taxa at hand and the range of their natural variation on the island. Each species entry is uniformly arranged with the binomial, authority, a description of the taxon, and information on phenology, abundance, habitat, plant association, elevational range, distribution pattern on the island, and distribution elsewhere if not endemic. Many entries also contain additional historical or ethnobotanical data. The accompanying botanical illustrations complement the text nicely; they are of good size, crisp in detail, and deftly display both general aspect and technical characters.

Following this taxonomic treatment is a rather extensive listing of the literature cited, which in itself will prove a valuable resource for those interested in the natural history, human history, and anthropology of California's Channel Islands and especially Santa Cruz Island; and three appendices. Appendix I (pp. 329–335) provides an overview of collecting trips on the island with dates, collectors, and localities; Appendix II (pp. 337–369), an indispensable section, cites selected herbarium specimens which substantiate the presence of the various taxa cited on the island; and Appendix III (pp. 371–375), lists those taxa that have been *reported* from the island, but for which no herbarium specimens could be located to *substantiate* their past presence on the island. Appendix III also disposes several taxa that have been reported from the island on the basis of misidentified herbarium specimens. As any conscientious floristician knows, herbarium specimens as vouchers form the basis for any and all *reliable* floristic accounts. The reliance of *this* flora on such vouchers is

one of its many strengths. Finally, the book is rounded out with a concise but clearly written glossary of botanical terms (compiled by Julie Broughton), and an index to the taxa which includes both scientific and common names.

Errors in this book are hard to find and almost non-existent. I was surprised to see the word *spicate* spelled as “spikate”. Presumably this is an Americanized spelling that was back-formed from “spike,” although I could not find it in my unabridged Webster’s dictionary or my usual assortment of botanical glossaries. At least in this case the spelling is uniform throughout the work, and the word appears in the glossary as such. I ran across a typographical error, but it too was negligible. One of my colleagues was concerned with the fact that the three appendices were not identified as to content in the Table of Contents. Overall, however, the text has the mark of a manuscript that has been read, and re-read, and refined (perhaps obsessively) in order to bring it as close to perfection as is humanly possible. I cannot fault its authors for that.

Although I do not wish to diminish to any degree the important contributions of any of the other co-authors of this excellent flora, it seems clear that this work has largely come to fruition through the efforts of its first author, Steve Junak. In recent years, Steve has conducted extensive floristic surveys not only on California’s Channel Islands, but also on numerous islands lying off the coast of the Baja California peninsula. Such floristic studies have been critical to putting insular floras—including that of Santa Cruz Island—into phytogeographic perspective. Steve has also had a profound interest in the associations between plant taxa and their geologic substrates. While for years California’s serpentine outcrops have been worshipped as the gods who solely foster “interesting plants,” Steve has made equally interesting observations on the “less glamorous” substrates upon which certain taxa restrict themselves, thrive, and live out their lives. His outstanding abilities as a field botanist have resulted in numerous documented additions to insular floras, and a concomitantly improved understanding of phytogeographic patterns in the Californian flora. His perfectionism and attention to detail have resulted in a flora infused with his observations and desire for completeness.

I have only had the privilege of visiting Santa Cruz Island once. This was in mid-September of 1992, when Steve served as a guide to Carol Galbraith, a young woman from Alaska; three entertaining and endearing Russian botanists, Amirchan Amirchanov, Yuri Gorbunov, and Peter Gorovoy, who were getting an introduction to the California flora; and myself. I made *very few* herbarium collections, my goal largely being to accompany the visiting Russian botanists and assist them with plant identifications. Consequently, when I saw my name listed as a collector in Appendix I—despite the paucity of my collections—I was amused and uttered, “that’s incredible,” when I realized just how completely Steve Junak had compiled information for this book.

One of the reasons that I am so proud of this flora, even though I have nothing to do with it, is that (in my opinion) floristic botany in Southern California has largely been in a coma in recent decades. Although there are many people who claim to be “Southern California botanists,” the number of people who are actively and systematically collecting and documenting the flora can literally be counted on the fingers of two hands, even if a couple of fingers have been lost in a shop-class accident. This is a very depressing situation when one considers the unique, irreplaceable, and still inadequately known flora of Southern California. I know that several of the active field and herbarium botanists in Southern California have regional floras as their goals, but *A Flora of Santa Cruz Island* is the first substantial new flora in Southern California in quite a few years. This particular flora clearly provides a caliber and quality that is to be aspired to in regional Californian floras, and instills in me the belief that Southern California botany is about to get up out of its hospital bed.

The diligent and competent efforts of Steve Junak, Tina Ayers, Randy Scott, Dieter Wilken, David Young, and Linda Vorobik are to be applauded. In the quality of content and execution, this book far surpasses most works of its type, and will provide

the reader an excellent introduction to this largest and most diverse of California's islands. Even if one never gets an opportunity to visit Santa Cruz Island, this book is a necessity for those interested in the flora of California and the phytogeography of the California Floristic Province.

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The Cruciferae of Continental North America: Systematics of the Mustard Family from the Arctic to Panama. By REED C. ROLLINS. 1993. Stanford University Press, Stanford. xvii plus 976 pages. Hardcover, \$125.00, ISBN 0-8047-2064-9.

As the World's preeminent authority on the family Cruciferae (Brassicaceae), Reed C. Rollins has produced his *magnum opus* with the publication of *The Cruciferae of Continental North America*. Culminating over fifty years of research and study, this monumental volume provides a comprehensive taxonomic treatment of the family for North and Central America, exclusive of Greenland, the Caribbean islands, and the other islands east of the continent. Complete coverage is provided for all genera, species, and infraspecific taxa known to occur (at least recently) on the continent. Rollins reports a total of 99 genera, 778 species, and 248 infraspecific taxa and hybrids. There has not been such a broad conspectus of the family since that of Torrey and Gray in 1838.

The requisite introductory material is presented clearly and concisely (83 pages) in the first four chapters, with the bulk of the text (837 pages) dedicated to keys and detailed descriptions of taxa. The first chapter, Introduction, provides the reader a general overview of the Cruciferae, including short discussions of geographic diversity of the family worldwide, general morphological features of the family, notable deviations from the morphological norm, and economic importance. In addition, a synopsis is provided for the directions Rollins' own research has taken over the years. Interestingly, Rollins downplays speculation on evolutionary trends and higher-level relationships within the family. Chapter Two, Phytogeography and Endemism, focuses on the phytogeographic patterns manifest in the North American taxa. The various patterns of endemism, distribution, and centers of species diversity are discussed citing numerous specific examples. Chapter Three, Taxonomic Criteria, provides an invaluable overview of the range of variation, taxonomic utility, and limitations of the principal morphological characters utilized in the description and discrimination of crucifer taxa. Discussion is also provided for pertinent cytological and breeding system characteristics of taxonomic significance. These points are amply illustrated by excellent line drawings, photographs of living and pressed plants, and photomicrographs from SEM and traditional light microscopy. Chapter Four, Methods of Treatment, provides the author's rationale for kind and style of information provided in the species treatments, intensity of coverage of native vs alien taxa, format for presentation of distributional information, etc.

The remainder of the text is largely devoted to keys and detailed descriptions of the component taxa. Those keys I have used to identify field-collected specimens proved well written and logical, providing several characters for comparison at most couplets. Following a generalized description of the family and keys to genera, the genera are arranged alphabetically. A general description is provided for each genus, including nomenclatural citation, followed by keys and detailed descriptions of the included taxa, the latter arranged alphabetically when greater than one. Species descriptions, also including nomenclatural citations, are well written, providing ample details of all portions of the plant, but emphasizing those features considered diagnostic. This is followed by general information on flowering period, habitat, range, synonyms, and in many cases, other noteworthy information about the taxa. Line drawings of selected representative taxa are provided for most genera.